CMPT 276 PROJECT

Iteration 0

Team Misfits

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SimplyIoT

1. **What is the name of your web application?**

SimplyIoT

2. **Do we have a clear understanding of the problem?**

When consumers buy IoT devices for home automation, they are buying into an ecosystem that often does not support devices from other firms. Google's ecosystem does not work with products from Telus IoT for example. Ignoring privacy concerns for IoT, the main problem with the model is that it reduces purchasing options for consumers after initial investment.

   a. **How is this problem solved currently (if at all)?**

The problem enables firms to offer an IoT subscription service that users grow to depend on. It therefore is only solved by open source platforms like Home Assistant.

   b. **How will this project make life easier?**

This would empower consumers to manage devices from multiple firms in addition to any devices they make.

   c. **Who is the target audience? Who will use your product?**

Most users would be from the maker community, HW engineers, or anyone trying to increase their purchasing power as an IoT consumer. In addition, organizations like commercial real estate firms can use our app as a testing ground before they commit to a full ecosystem that offers device maintenance.

   d. **What is the scope of your project?**

The scope of the project is getting Wi-Fi switches and sensors to communicate with our web app, then using the data to provide simple analytics for users. The project needs to control relays connected to a Wi-Fi System on Chip (SoC).

   e. **Does this project have many individual features, or one main feature (possibility with many subproblems)? These are the 'epics' of your project.**

Our project has a main feature which is interfacing with Wi-Fi SoCs, and sub-features like selecting types of Wi-Fi peripheral and providing analytics on power consumption.

   f. **What are some sample stories/scenarios? For example, as a regular user to your site, what types of things can I do? As an admin for your site? These are the 'stories' of your project.**

As a user you will be able to interact with your peripherals, and see the history of your peripherals, like when a switch was turned on/off. As an admin, you will be able to add or remove peripherals, enable API Authentication, and delete history.

   g. **Be honest, is the amount of work required in this proposal enough for five group members**

Designing the UI, and interfacing with the API and the peripherals on top of creating analytics will require a lot of work.

SimplyIoT

Abstract

SimplyIoT is an IoT management web app that empowers consumers. Off-the-shelf IoT products discourages users from buying devices outside of their ecosystem. The app integrates WiFi System on Chip with sensors and switches from multiple manufacturers to increase the purchasing options for consumers. The features of SimplyIoT includes automating tasks based on parameters like brightness and humidity, a GUI to manage sensors and switches, analytics on power consumption, and user authentication. Authenticated users will be able to interact with registered peripherals and see the usage history. Admins will be able to add/remove devices and change the analytics dashboard. Although the app is geared towards single units of housing, it can be scaled up in future implementation to control multi-family residentials.

Customer

SimplyIoT targets consumers that do not want to be tied to a single IoT ecosystem. The typical users will be technically inclined with some knowledge in hardware engineering and/or programming. In addition, commercial real estate management firms that want to test out different IoT solutions may use SimplyIoT before buying into a system.

Competitive Analysis

Some of the competitors in home IoT market space includes Google with Nest, Philips with Smart Dimmer Switch, and Logitech with Home Controller. Although the products listed above are mainly hardware based, SimplyIoT competes with the device management aspect. A more direct competitor is Home Assistant, which is an open source home automation platform. The main difference between Home Assistant and our app is that SimplyIoT will provide more options with the sensors users can integrate as opposed to having to choose established products. In addition, Home Assistant only provides simple usage history as the data they can obtain is limited by what the devices provide. SimplyIoT has the capacity to expand and customize the analytics depending on the user's needs.

User Stories

A user is defined as an actor who has limited access to devices via the web app.

- As a user, I want to view analytics dashboard after I sign in, so I that can keep track of how much electricity my devices use. [iteration 0]
- As a user, I want to power devices and sensors on and off via the app so that I can set my home to be the right condition when I get home. [iteration 0]

- As a user that lives in a multi-family residential, I want to send request and concerns regarding the devices to a building manager or an Administrator. [iteration 0]

An Administrator is defined as an actor who has full access over the devices physically or via the app.

- As an Administrator, I want to register devices within SimplyIoT after physical installation has been done. [iteration 0]
- As an Administrator, I want to remove devices from SimplyIoT without physically altering the devices. [iteration 0]
- As an Administrator, I want to be able to change and expand the analytics reports I receive. [iteration 0]
- As an Administrator, I want to automate tasks with devices per parameters like datetime, temperature, brightness and humidity. [iteration 0]
- As an Administrator, I want to be able to change the email address for receiving requests and concerns. [iteration 0]

GitHub
https://github.com/howardgkim/cmpt276spring2018